European Journal of Humanities and Educational Advancements (EJHEA)
Available Online at: https://www.scholarzest.com
Vol. 3 No. 05, May 2022
ISSN: 2660-5589

FEATURES OF PORTAL BLOOD CIRCULATION AND ECHOGRAPHIC STRUCTURE OF THE LIVER IN PATIENTS WITH CHRONIC HEART FAILURE

Gafforov Xudoyor Xudoyberdiyevich
Samarkand State Medical University
Assistant of the Department of Propaedeutics of Internal Diseases,
Samarkand, Uzbekistan
Ergasheva Ma'mura Toshtemirovna
Samarkand State Medical University
Assistant of the Department of Propaedeutics of Internal Diseases,
Samarkand, Uzbekistan
Khaydarov Sanjar Nizamitdinovich
Samarkand State Medical University
Assistant of the Department of Propaedeutics of Internal Diseases,
Samarkand, Uzbekistan
Xolturayev Abdigappor Tadjiyevich
Samarkand State Medical University
Assistant of the Department of Propaedeutics of Internal Diseases,
Samarkand, Uzbekistan

Article history:

Received: 8th March 2022

Accepted: 10h April 2022

Published: 22th May 2022

Abstract:

In recent years, remarkable progress has been made The successes in prolonging the lives of patients with chronic renal insufficiency (CRI) through the widespread introduction into clinical practice of extra-renal blood purification techniques, in particular The use of a programmatic hemodialysis, as well as an increase in the number of successful renal transplantation operations. In the past, there was an inherently poor prognosis for life, the inevitable nature of rehabilitation, and the inevitable need for people with CRI to move away from active full-time social and occupational activities. At the same time, it was recognized that in substitution therapy CRI is not only about prolonging life, but also about ensuring high quality of life, This has led to a significant number of reports in medical research journals reflecting the findings of research on different aspects of quality of life (QOL) in the dialysis centres.

Keywords: chronic heart failure, Dopplerography, portal hemodynamics,

INTRODUCTION

The state of the liver and hepatic hemodynamics plays an important role in assessing the severity of the condition and predicting the development of chronic heart failure (CHF). Perivenular fibrosis, which is a morphological substrate of a congestive liver and spreads deep into the hepatic lobules, passes to the periportal zones, leading to the development of cirrhosis and portal hypertension, the clinical manifestations of which aggravate the course of CHF. Ultrasonography allows you to detect an increase in size, a change in the structure of the liver, an expansion of the hepatic and portal veins. We have not found any literature data describing the ultrasonographic structural changes of the liver parenchyma characteristic of cardiac fibrosis. Characteristic changes in blood flow, determined by Dopplerography, consist in a violation of the phase of the Doppler spectrum in the hepatic veins, as well as in a decrease in the average linear velocity of blood flow and the appearance of pulsating blood flow in the portal vein. The relationship between the pressure level in the right atrium and the severity of such pulsation has been established. However, these There are insufficient data to assess the significance of portal hemodynamic disorders for predicting the course of CHF.

MATERIAL AND METHODS

109 patients with various stages of CHF and 31 patients of the control group were examined. With I—II functional classes (FC) according to NYHA there were 17 patients, with III—G/ - 92. From this group, 14 patients were monitored in dynamics with a duration of one to 3 years. The causes of CHF were coronary heart disease, postinfarction cardiosclerosis (in 26), hypertension (in 15), rheumatic defects heart disease (42), dilated cardiomyopathy, myocarditis, congenital heart defects (9). All patients underwent general clinical and laboratory examinations, electrocardiography, chest X-ray, echocardiography, as well as ultrasound and Doppler studies of the liver. Aloka devices were used for ultrasound SSD-650 and Aloka SSD-4000 with sector (2-3.5 MHz) and convex (3.5 MHz) sensors. During echocardiography, the main morphometric parameters were evaluated: the dimensions of the left and right atria, the final diastolic and systolic dimensions of the left ventricle (FDD, SDD), the dimensions of the right ventricle, aorta and pulmonary artery, the thickness of the interventricular junction and the posterior wall of the left ventricle, as well as the ejection fraction (EF) and contractility (FS), the final diastolic (FDV) and final systolic (FSV) volumes of the left ventricle, stroke volume (SV), systolic pressure in the pulmonary artery (SPPA), the pressure level in the right atrium. In addition, the mass of the left ventricular myocardium and the mass index (LVMMI) were calculated. Liver ultrasonography was used to determine its size and structure, the diameter of the portal vein and Dopplerographic parameters of portal hemodynamics, the average linear (ALBF) and volumetric (AVBF) blood flow rates in the portal vein (PV), as well as the velocity parameters of blood flow in the hepatic artery and the qualitative characteristics of the Doppler spectrum in the hepatic veins. All parameters studied on an empty stomach. Quantitative indicators of portal blood flow were also judged after a food load test, which is usually used to assess the functional reserve of the portal system in chronic diffuse liver diseases. At the same time, the percentage of increase in the size of the VP, ALBF and AVBF was calculated. The liver structure was studied by threshold video densitometry, based on preliminary calibration of the device using an anechoic reference medium (blood in the lumen of the vessels of the basin of the inferior vena cava and hepatic vein at such a maximum gain value at which the reference medium still remains anechoic). After that, the quantitative parameters of the amplitude histography characterizing the echogenicity and structure of the liver were calculated. Such parameters were the predominant gradation of the gray scale (PGGS), reflecting the average amplitude the brightness of the image (on a 64-gradation scale), and the dispersion (D), reflecting the degree of heterogeneity of liver tissue in % of the maximum number of gradations of the "gray scale" distinguished by an ultrasound scanner.

RESULTS AND DISCUSSION

When analyzing the data obtained, we found that in patients with CHF I-II FC, the main initial parameters of portal hemodynamics on an empty stomach were similar to those in the control group and coincided with the literature data. In patients with CHF III-IV FC average Doppler indicators of portal blood flow on an empty stomach did not significantly differ from those in the control and in patients with CHF I—II FC. At the same time, the majority of patients with TII-TV FC had a portal phase blood flow corresponding to the 3-4-5 "gradations of pulsating blood flow" according to the classification of A.J. Duerrinckx et al.

In 54 (58%) patients, ALBF and AVBF in the portal vein were within the normative indicators, in 14 (15%) they significantly exceeded them, and in 25 (27%) they were reduced to 8.84 ± +0.47 cm/s ($p<0.01$).

The results of samples with a food load in patients with FC 1-11 did not significantly differ in the results obtained during the examination of the control group, while patients with FC III-1V had 3 types of portal system reactivity. In 25 (27%) patients, the increase in AVBF was similar to that in the control group and patients with The 1st FC of CHF, in 45 (48%) - less than 70%, which corresponds to the phase of latent portal hypertension [3], or its hypokinetic type, detected in a number of other chronic diffuse liver diseases (hepatitis, cirrhosis). In 23 (25%) patients an initial decrease in fasting USC was found with a significant (more than 2.5 times) increase in it after a test with a food load, which is unusual for other diseases and is specific for CHF.

Comparison of liver Dopplerography and echocardiography data showed significant differences in a number of parameters between these groups. The quantitative assessment of the liver parenchyma structure in patients with CHF revealed characteristic changes in geographical parameters peculiar to cardiac fibrosis and different from the variants corresponding to various chronic diffuse liver diseases (hepatitis, portal cirrhosis). In 3groups, these indicators also differed among themselves .

CONCLUSIONS

Based on the results of clinical examination, echocardiographic data, quantitative parameters of the liver structure, as well as the results of dynamic observation of patients, we found that the most unfavorable type of reaction of the portal system, accompanied by progressive deterioration of patients, echocardiography and threshold video densitometry, is the 3rd type of reaction. The appearance of the 3rd type of reaction occurs against the background of an increase in the size and volume of the left ventricle, a decrease in the contractility fraction, an increase in systolic pressure in the pulmonary artery, mass and IMM of the left ventricle, an increase in structural changes of the

liver by the type of cardiac fibrosis. Patients with Type 3 reactions require special attention due to the unfavorable prognosis of the course of CHF.

LITERATURE

1. Alisherovna, K. M., & Tatlibayevich, Y. S. (2021). ASSESSMENT OF RISK FACTORS FOR ARTERIAL HYPERTENSION HYPERTENSION IN PREGNANT WOMEN. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *2*(3), 214-217.
2. Alisherovna, K. M., & Tatlibayevich, Y. S. (2021, April). RENAL HEMODYNAMICS AND GLOMERULAR FILTRATION IN PATIENTS WITH HYPERTENSION DISEASE AT THE AGE OF 40-60 YEARS. In *Euro-Asia Conferences* (Vol. 3, No. 1, pp. 146-149).
3. Alisherovna, K. M., Davranovna, M. H., & Nizametdinovich, K. S. (2022). Chronic Heart Failure in Women. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *3*(1), 21-25.
4. Alisherovna, K. M., Djamshedovna, K. D., & Kayumovna, A. S. (2022). Evaluate the Quality of Life using the KDQOL-SFTM Questionnaire. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *3*(1), 26-31.
5. Alisherovna, K. M., Tatlibayevich, Y. S., Toshtemirovna, E. M. M., & Nizamitdinovich, H. S. (2021). Diagnostic Significance Daily Monitoring of Blood Pressure in Young Women (Under 40 Years Old) with Arterial Hypertension. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *2*(5), 461-465.
6. Alisherovna, M. K. (2021). 24-Hour Abp Monitoring Of Blood Pressure In Patients With Chronic Heart Failure And The State Of Kidney Function. *Central asian journal of medical and natural sciences*, *2*(1), 197-204.
7. Alisherovna, M. K., & Tatlibayevich, S. Y. (2021, April). Prevention of the progression of chronic kidney disease by decompensation of chronic heart failure. In *Euro-Asia Conferences* (Vol. 4, No. 1, pp. 54-58).
8. ALISHEROVNA, M. K., & XUDOYBERDIYEVICH, G. X. (2021). Treatment of Chronic Heart Diseases Insufficiency Depending On the Condition of the Kidneys.
9. ALISHEROVNA, M. K., & XUDOYBERDIYEVICH, G. X. (2021). Treatment of Chronic Heart Diseases Insufficiency Depending On the Condition of the Kidneys.
10. Alisherovna, M. K., Erkinovna, Z. K., & Tatlibayevich, S. Y. (2022). Liver Diseases in Pregnant Women, Principles of Treatment. *Eurasian Research Bulletin*, *4*, 48-51.
11. Khusainova, M. A., & Yarmatov, S. T. (2021). CARDIAC ARRHYTHMIAS AND CARDIOHEMODYNAMIC DISORDERS IN PATIENTS VIRAL CIRRHOSIS OF THE LIVER. *Scientific progress*, *2*(2), 196-202.
12. Makhmudova, K. D., & Gaffarov, H. H. (2021, February). STUDYING THE LIVER FUNCTION IN BURN RECONVALESCENTS. In *Archive of Conferences* (Vol. 15, No. 1, pp. 208-210).
13. Nazarov, F. Y., & Makhmudova, K. D. (2022). THE USE OF STATINS AND DRUGS THAT INHIBIT THE ABSORPTION OF CHOLESTEROL IN PATIENTS WITH CORONARY HEART DISEASE. *Galaxy International Interdisciplinary Research Journal*, *10*(1), 306-309.
14. Vafoyeva, N. A., & Gaffarov, K. (2016). Osobennosti kliniko-laboratornoy diagnostiki khronicheskogo piyelonefrita u zhenshchin. *Natsional'naya Assotsiatsiya Uchenykh*, (1), 20-21.
15. Xabibovna Y. S., Buriboevich N. M. SOME FEATURES OF STRUCTURAL AND FUNCTIONAL CHANGES OF THE MYOCARDIAL IN PATIENTS WITH DIABETES MELLITUS WITH DIASTOLIC HEART FAILURE //E-Conference Globe. – 2021. – С. 208-211.
16. Yarmatov, S. T., & Xusainova, M. A. (2021). YURAK ISHEMIK KASALLIGI MAVJUD BO'LGAN BEMORLARDA. *Scientific progress*, *2*(3), 785-791.
17. Yarmukhamedova, S. K., Bekmuradova, M. S., & Nazarov, F. Y. (2020). Diagnostic value of natriuretic peptide in identifying patients with asymptomatic systolic or diastolic dysfunction. *Achievements of Science and Education*, *8*(62), 84-88.
18. Yarmukhamedova, S., Nazarov, F., Mahmudova, X., Vafoeva, N., Bekmuradova, M., Gaffarov, X., ... & Xusainova, M. (2020). Features of diastolic dysfunction of the right ventricle in patients with hypertonic disease. *Journal of Advanced Medical and Dental Sciences Research*, *8*(9), 74-77.
19. Yarmukhamedova, S., Nazarov, F., Mahmudova, X., Vafoeva, N., Bekmuradova, M., Gafarov, X., ... & Xusainova, M. (2020). Study of indicators of intracardial hemodynamics and structural state of the myocardium in monotherapy of patients with arterial hypertension with moxonidin. *Journal of Advanced Medical and Dental Sciences Research*, *8*(9), 78-81.
20. Бекмурадова, М. С., & Хайдаров, С. Н. (2022). СВЯЗЬ МЕЖДУ ПОВЫШЕННЫМ ПУЛЬСОВЫМ ДАВЛЕНИЕМ И НАТРИЙУРЕТИЧЕСКИМ ПЕПТИДОМ. *Журнал кардиореспираторных исследований*, *3*(1).
21. Тоиров, Д. Р., & Махмудова, Х. Д. (2021). ПОДАГРА КАСАЛЛИГИ БИЛАН ОҒРИГАН БЕМОРЛАРДА ЮРАК ҚОН-ТОМИР ЗАРАРЛАНИШЛАРИ. *Scientific progress*, *2*(2), 242-249.
22. Ярмухаммедова С., Гаффоров Х., Ярматов С. JIGAR SIRROZIDA YURAKNING SISTOLIK VA DIASTOLIK DISFUNKTSIYASINING AHAMIYATI //Журнал кардиореспираторных исследований. – 2020. – Т. 1. – №. 2. – С. 85-87.
23. Ярмухаммедова, С., Гаффоров, Х., & Ярматов, С. (2020). JIGAR SIRROZIDA YURAKNING SISTOLIK VA DIASTOLIK DISFUNKTSIYASINING AHAMIYATI. *Журнал кардиореспираторных исследований*, *1*(2), 85-87.